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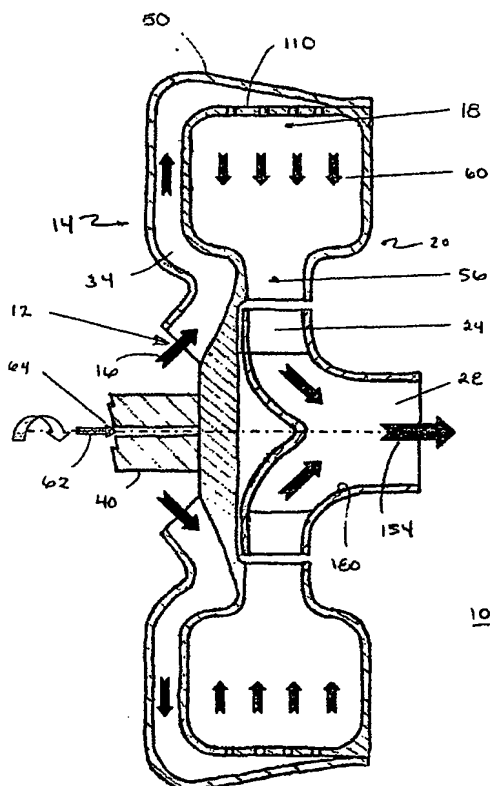
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- (54) Title: ROTATING COMBUSTOR GAS TURBINE ENGINE**



(57) Abstract: A gas turbine engine design that utilizes a rotating combustion system to simplify the design and improve the efficiency and power density when compared to previous small gas turbine designs. The new gas turbine engine design comprises a radial impeller coupled to a rotating combustion system, the flow from which enters a rotating turbine nozzle, the flow then leaves the rotating reference frame and is diffused in a stationary radial diffuser. The combustion system remains geometrically fixed in relation to the impeller and turbine nozzle blades, all of which spin at the same rate of rotation about a common axis of rotation. This invention is enabled by the ability to design and build a combustion system small enough to fit within the flow path of a rotating impeller. The rotating combustion system then eliminates the need for most of the non-rotating or static components within the gas turbine engine thereby reducing the cost of the engine and elimination the reduction in efficiency and power output associated with the static components.



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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 60/39.35

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 60/39.35, 39.34, 804, 39.37, 39.38, 39.39

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,417,564 A (CALL et al) 24 December 1968 (24.12.1968), See particularly Figure 2.	1,3,6,14,16,17,18,24
X	US 3,469,396 A (ONISHI et al) 30 September 1969 (30.09.1969), see particularly Figure 1, column 1 lines 21-24, column 3 lines 2-9.	1,3,6,14,24
X	US 3,557,551 A (CAMPBELL) 26 January 1971 (26.01.1971), see particularly Figure 2, column 3 lines 47-48.	1,3,6,14,24
X	US 4,724,670 A (GREER) 16 February 1988 (16.02.1988), see particularly Figure 1B, column 5 lines 3-4, column 5 lines 27-32.	1,3,6,11,14,19,24,25
X	US 5,960,625 A (ZDVORAK) 5 October 1999 (05.10.1999), see particularly Figure 2A.	1,3,6,14,15,24

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